

PRESSURE VESSEL Model 1046
With system RC-176 (2 operators)



INSTRUCTION MANUAL & PARTS

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Definition of Terms Used In This Manual

Abrasive (also known as "media"): granular material used for blasting a surface.

Blow down (also known as "depressurize"): to expulse air automatically or manually from a pressurized vessel.

Control Handle: mandatory remote-control device used to start and stop the blaster.

Depressurize (also known as "blow down"): to expulse air automatically or manually from a pressurized vessel.

Pressure Hold System (also known as "manual blow-down system"): blasting system in which the pressure vessel stays pressurized when the control handle is released.

Pressure Release System (also known as "automatic blow-down system"): blasting system in which the pressure vessel is automatically depressurized when the control handle is released.

Pressure Vessel: enclosed section of the blaster filled with pressurized air and abrasive during blasting operations.

Pressurize: to fill the pressure vessel with compressed air.

Properly Trained Person: a person who has successfully passed a training course in sandblasting pertaining mainly to the safe operation of stationary or portable Abrasive Blasters with capacities ranging from 1.5 ft³ to 6.5 ft³ and who has read this entire manual and understands it

Silica : hazardous substance found in many naturally occurring abrasives.

NOTE: Abrasives containing silica must NEVER be used in any blasting situation. Even if respiratory protective equipment is used, the resulting dust can cause respiratory disease

Safety Symbols

The safety symbols below are designed to ensure the safety and protection of the Abrasive Blaster operator and of anyone else nearby. The explanations provided apply to sandblasting equipment.



OR



WARNING :This symbol indicates a potentially dangerous situation that could result in serious injury or death if the instructions related to the symbol are not carried out. Throughout the manual, this warning triangle will appear to denote instructions requiring special attention.



DANGER : This symbol indicates a potentially dangerous situation that WILL result in serious injury or death if the instructions related to the symbol are not carried out. Throughout the manual, this warning triangle will appear to denote instructions requiring special attention.



WARNING

- **Anyone who will be running the Abrasive Blaster or who will be nearby during its operation must receive appropriate training in the safe operation of the equipment and must be cautioned about the potential hazards. Besides being adequately trained, anyone who will be running the Abrasive Blaster or who will be nearby during its operation must read, understand and follow all the procedures explained in the user manual. For replacement manuals, please contact your distributor or go to www.ISTblast.com.**
- **Anyone who will be running the Abrasive Blaster or who will be nearby during its operation must use respiratory protection that meets OSHA and NIOSH standards for breathing apparatus and supplied air.**
- **Because they contain large amounts of accumulated energy, Pressurized Vessels can cause serious injury or death if safety procedures are ignored. Never perform maintenance on a pressurized Pressure Vessel or attempt to open it under any circumstances. Always depressurize the equipment and disconnect it properly from its air source before beginning maintenance. Never modify the Pressure Vessel or do grinding or welding on it under any circumstances. Otherwise, the ASME certification will be void. Damaged pressure vessels must NEVER be used.**
- **The appropriate Remote (Deadman) Control System must be used to operate the Abrasive Blaster. Abrasive Blasters must NEVER be used without Remote Controls. Bleeder-Type Control Handles must NEVER be used with RC-176 or RC-186 Series Blasters because they can create dangerous conditions where the blaster does not shut off when the handle is released.**
- **Anyone who will be running the Abrasive Blaster or who will be nearby during its operation must use the appropriate safety equipment as well as common sense to protect themselves. The required safety equipment includes, but is not limited to, hearing, eye, body and lung protection. Because of their weight, Abrasive Blasters and the objects being blasted can cause serious injury or death if they topple over. All OSHA and NIOSH safety requirements must be followed at all times.**
- **Only genuine ISTblast replacement parts must be used for maintenance on the Abrasive Blaster. The equipment must NEVER be altered under any circumstances. Using altered brand parts can create hazardous conditions and will void your warranty.**
- **Before using the Abrasive Blaster, inspect it and make sure it is in good working order. Malfunctioning or damaged equipment must NEVER be used.**
- **Only clean, cool, dry compressed air must be supplied to the Abrasive Blaster. Hazardous conditions can result if moisture or debris reaches the Remote Control System. Compressed air supplied to the Blaster must not exceed 150 psi.**
- ****USING AN AIR-LINE PRESSURE REGULATOR IS STRONGLY RISTBLASTMMENDED.****
- **Abrasive Blasters must NEVER be used in locations that could be deemed potentially hazardous according to Article 500 of the National Electrical Code, NFPA 70. The Abrasive Blaster must NEVER be used in wet locations. Electrically controlled Abrasive Blasters must always be connected to a ground fault circuit interrupter (GFCI).**

HOW TO SET UP THE BLASTER



WARNING : The Operating Procedures described in this manual are intended to provide basic information about the safe operation of the features of ISTblast RC-176/RC-186 Series Abrasive Blasters. The Abrasive Blaster should be operated only by persons who are fully trained in abrasive blasting.

INSPECT THE PRESSURE VESSEL

When your Abrasive Blaster arrives, remove the Handway Assembly and check if any foreign objects have fallen in through the pop-up opening. If so, remove them all, and then reinstall the Handway Assembly.



DANGER : Maintenance must NEVER be done on the Abrasive Blaster nor should anyone try to open it while it is pressurized. Otherwise, serious injury or death will result from the violent expulsion of compressed air and propelled objects.

RE-TIGHTEN THE HANDWAY ASSEMBLY

Once you have pressurized the Abrasive Blaster for the first time, tighten the nut on the Handway Assembly. Also, whenever the Handway Assembly is removed for maintenance, you must tighten the nut again, prior to and following the next pressurization.



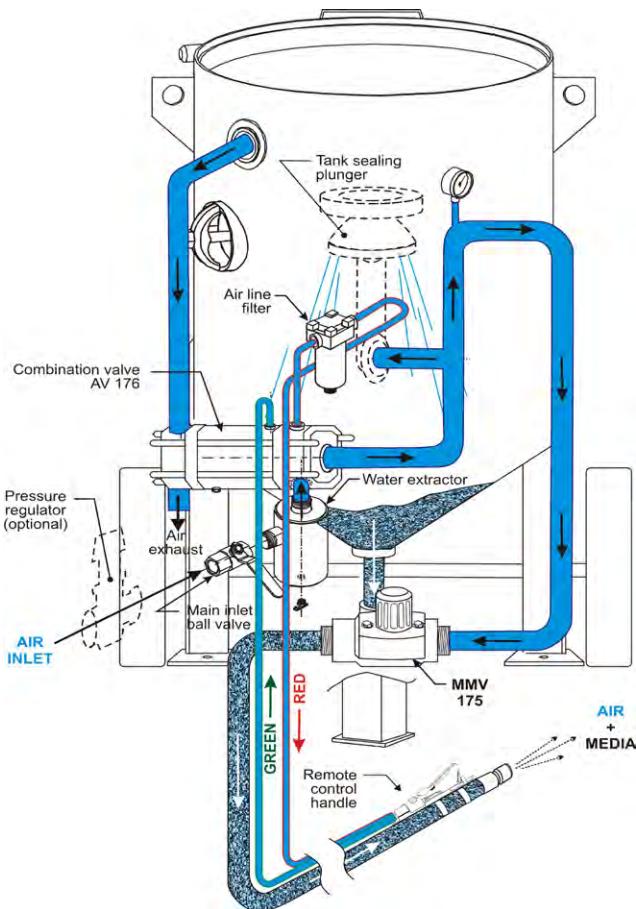
DANGER : Maintenance must NEVER be done on the Abrasive Blaster nor should anyone try to open it while it is pressurized. Serious injury or death will result from the violent expulsion of compressed air and propelled objects.

PURGE THE AIR SUPPLY HOSE

Before the Air Supply Hose is connected to the Abrasive Blaster, the hose must be purged of any moisture or debris. If there is standing water or moisture in the air line, the Abrasive Blaster will not perform optimally. Air supplied to the Abrasive Blaster must be cool, dry and clean.

ATTACH THE REMOTE CONTROL HANDLE

Using hose clamps or heavy wire ties, fasten the Remote Control Handle to the Blast Hose near the Nozzle. Next, form a loop of Twinline/Control Cord where the first 6 inches of cord curve away from the Blast Hose, then the next 6 inches run parallel to the Blast Hose, and then the last 6 inches curve back to join the Blast Hose. At the location where the loop ends, fasten the Twinline/Control Cord to the Blast Hose by wrapping duct tape twice around the Twinline/Control Cord and then around the Blast Hose to form a strain-relief attachment. Do this only on the first connection near the Control Handle. Fasten the rest of the Twinline/Control Cord to the blast hose by wrapping duct tape around the cord and the hose, every 3 feet, beginning at the Nozzle end of the Blast Hose.

RC 176 Control system**How it works****IMPORTANT:**

A PRESSURE REGULATOR SHOULD BE INSTALLED ON THE AIRLINE FROM AIR COMPRESSOR

When the main air-line ball valve is ON, air is supplied to the AV-176 Combination Air Intake and Exhaust Valve, which is normally closed.

When the Remote Control Handle on the dual air line is depressed, the AV-176 Combination Valve will be activated, so the air can flow in. This forces the Plunger Pop-up Valve to seal the filling port and close the exhaust section of the Combination Valve at the same time, thus pressurizing the Pressure Vessel.

When the Control Handle is released, blasting will stop and the Pressure Vessel will automatically depressurize.

When you have finished blasting, always be sure to close the main inlet air-line ball valve.

Before Blasting

PRE-BLASTING INSPECTION

Before each use of the Abrasive Blaster, check and make sure it is in safe working condition. Examine the seals, hoses and other components closely for wear or damage. Replace any damaged or worn component before you begin blasting.



WARNING : An Abrasive Blaster must NEVER be used if any of its components are damaged or worn. Replace all damaged or worn parts before using the equipment.

HOW TO ADD THE ABRASIVE

Before you fill the Abrasive Blaster, be sure that the Inlet Valve is closed and that the Pressure Vessel is depressurized. Pour the abrasive into the top of the Abrasive Blaster. Allow it to flow around the Pop-up and into the Pressure Vessel. Make sure you neither overfill nor allow foreign materials to enter. To prevent foreign items from getting inside, the use of a screen is rISTblastmmended.



DANGER : NEVER reach inside while the Abrasive Blaster is being filled. The pop-up opening can close unexpectedly and cause serious injury or death.



WARNING : Abrasives containing silica must NEVER be used with ISTblast Abrasive Blasters.

WARNING : The Inlet Valve must NEVER be open while the Abrasive Blaster is being filled. Before you begin filling, always be sure to close it.

WARNING : NEVER use electrically conductive abrasives when the Abrasive Blaster is being used with Electrical Remote Control Systems, unless the sealed strain relief connectors have been changed.

WARNING : An Abrasive Blaster containing abrasive must NEVER be moved or transported.

ABOUT THE REMOTE CONTROL SYSTEM

An electrical or pneumatic Remote Control System (also referred to as "Deadman") must always be used with an Abrasive Blaster to start and stop blasting.

Electrical : On the Abrasive Blaster, the Remote Control Handle must be connected to the female twist-lock connector on the Abrasive Blaster. A 12 VDC power source (12-V battery or optional 120 VAC to 12 VDC converter) must be connected to the male twist-lock connector.

Pneumatic : The Remote Control twin-line hose must be connected to the Abrasive Blaster using the threaded or quick-disconnect fittings that are supplied. Using pneumatic Remote Control Systems is not rISTblastmmended with Blast Hoses exceeding 100 feet.



WARNING : The Abrasive Blaster must NEVER be operated without a Remote Control System.



DANGER : Caution must always be used around electrical sources to avoid electrical shock. Never operate electrically remote-controlled Abrasive Blasters in wet or other hazardous conditions.

HOW TO CONNECT HOSES

Before you connect hoses to the Abrasive Blaster, be sure the Inlet Valve is closed and the compressed air supply is off. Next, connect the hose from the compressed air supply to the inlet on the Abrasive Blaster and use safety clips to secure it.

Using an air-line pressure regulator is strongly rISTblastmmended. Connect the blast hose to the coupling on the Metering Valve at the base of the Abrasive Blaster. Use safety clips to secure it.



WARNING : Safety devices, such as clips and whip checks (safety cables), must always be used to secure the hose.

Blasting

HOW TO PRESSURIZING THE ABRASIVE BLASTER

Before you pressurize the Abrasive Blaster, make sure that:

- All "BEFORE BLASTING" procedures have been carried out.
- The Inlet Valve is shut off.
- The Blow-down Valve is shut off (RC-186 systems only).
- The Remote Control Handle is released.
- Each hose connection is secure and reinforced with a safety clip.
- The Abrasive Blaster is set up in a safe location, on level ground, and everyone nearby has been informed of its presence.
- Anyone who will be near the Abrasive Blaster is wearing the required safety equipment.
- The only persons who will be near the Abrasive Blaster are those who have received the proper training and who have read the manual and understand it.
- Once these conditions are met, you can turn on the compressed air source and open the Inlet Valve on the Abrasive Blaster. At that point, the Abrasive Blaster will be ready for blasting.

DANGER : Maintenance must NEVER be done on the Abrasive Blaster nor should anyone try to open it while it is pressurized. Otherwise, serious injury or death will result from the violent expulsion of compressed air and propelled objects.



The compressed air supplied to the Abrasive Blaster should NEVER exceed 150 PSI (10.3 BAR).

WARNING : Activating the Remote Control Handle can cause the Blast Hose to kick back. Prepare by bracing yourself. Blasters with MMV-175 Metering Valves usually kick back erratically for a short while when they first start up.



WARNING : All persons who will be in the vicinity of the blasting operation must be adequately trained, must have read and understood the manual and must be wearing the necessary safety equipment.

HOW TO USE THE ABRASIVE BLASTER

To prepare for blasting, pressurize the Abrasive Blaster. To begin the flow of abrasive and compressed air, push the safety flap down and squeeze the Remote Control Handle. To adjust the air-abrasive mixture, turn the handle on the Metering Valve. It will take a bit of time for the adjusted mixture to reach the Nozzle. The delay will vary according to the length of the Blast Hose. Before you make adjustments, stop the Abrasive Blaster by releasing the Remote Control Handle. After a short period, which will again depend on the length of the hose, the flow of compressed air and abrasive will come to a halt. On Pressure Release (RC-176) Abrasive Blasters, the Pressure Vessel automatically exhausts through the Blow-Down valve. This causes a burst of compressed air, which can project loose objects, debris or abrasive toward anyone in the area. Therefore, no one should be close to a Pressure Release (RC-176) Abrasive Blaster during blasting operations.

DANGER : Respiratory disease can result from airborne particles generated by abrasive blasting. Anyone involved in the blasting operation or in the vicinity must wear the appropriate NIOSH/OSHA-approved breathing apparatus. Abrasives containing silica must NEVER be used.



DANGER : Always stay clear of a Pressure Release (RC-176) Abrasive Blaster while it is running. When the Remote Control Handle is released, compressed air will rush out suddenly and violently from the exhaust valve. You must wait until the Abrasive Blaster is depressurized before adjusting the Metering Valve.

WARNING : Only persons who have been fully trained in abrasive blasting should run the Abrasive Blaster. This manual provides only basic information on the safe operation of the features of ISTblast RC-176/RC-186 Series Abrasive Blasters..



WARNING : You must NEVER point the Blast Nozzle towards anyone, including yourself, or towards the Abrasive Blaster.

WARNING : Make sure the Choke Valve is completely open during blasting to prevent damage to the equipment.

Blasting (end)

HOW TO DRAIN THE MOISTURE SEPARATOR

The Moisture Separator must be drained periodically during blasting. To do so, it is best to keep the Drain Valve slightly open. This way, air will continuously escape and force the moisture out.



WARNING : The Abrasive Blaster must receive clean, cool, dry compressed air to run properly. Depending on the quality of the air being supplied, the Moisture Separator included with the Abrasive Blaster may not have the capacity to ensure this is the case.

HOW TO SHUT DOWN THE ABRASIVE BLASTER

When you have finished blasting, you must shut down the Abrasive Blaster. To do so, release the Remote Control Handle and then shut off the Inlet Valve. In the case of an RC-176 Pressure Release, the Abrasive Blaster will be depressurized by that time.

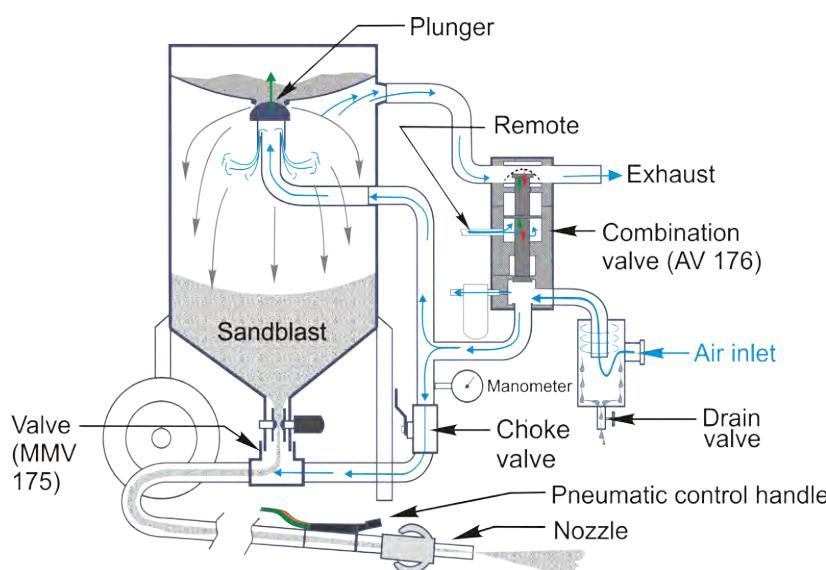
When using an RC-186 Pressure Hold, make sure that the pneumatic Control Handle is released. Next, shut off the Main Air Supply Valve and slowly open the Blow-Down Valve to let out the compressed air that is stored in the Abrasive Blaster.

HOW TO DISCONNECT THE AIR SUPPLY HOSE

Even once you have depressurized the Abrasive Blaster and shut off the Inlet Valve, the Compressed Air Supply Hose may still contain pressure, which must be expelled before you disconnect the hose. To do so, shut off the compressed air at its source and open the Drain Valve on the Abrasive Blaster. Slowly open the Inlet Valve on the Abrasive Blaster. This will allow the compressed air stored in the Compressed Air Supply Hose to exit through the Drain Valve. Once the sound of air escaping through the Drain Valve has stopped, squeeze the Compressed Air Supply Hose and make sure there is no more compressed air left inside. Once this is done, you can disconnect it.



DANGER: Compressed Air Supply Hoses must NEVER be disconnected until the "HOW TO DISCONNECT THE AIR SUPPLY HOSE" procedures have been carried out. Otherwise, the hose could blow off violently and injure or kill someone in the area.



RC-176 Pressure Release System

Maintenance Schedule



WARNING : Only experienced, qualified persons should perform maintenance. The maintenance procedures and timetable below must be followed; otherwise, the equipment may perform poorly or fail. Furthermore, the equipment warranty will be void.



DANGER : Maintenance must NEVER be done on the Abrasive Blaster nor should anyone try to open it while it is pressurized. Serious injury or death will result from the violent expulsion of compressed air and propelled objects.

INSPECTIONS AND MAINTENANCE	FREQUENCY
1- Inspect personal protective equipment	Every day
2- Inspect remote control handles and control hose/cord	Every Day
3- Inspect blast hose, couplings & gaskets	Every Day
4- Inspect blasting nozzle	Every Day
5- Inspect air hose, couplings and gasket	Every Day
6- Inspect & clean blow-down muffler (if equipped)	Every Week
7- Inspect pop-up & pop-up gasket	Every Months
8- Service metering valve	Every 3 Months
9- Service combination valve (if equipped)	Every 3 Months
10- Service control valve(s) (if equipped)	Every 3 Months

Maintenance Procedures

1. Inspect Personal Protective Equipment (PPE)

Inspect all PPE to make sure that it fits and that it is in good working condition. Replace or repair PPE, or have it fitted, as needed.

2. Inspect Remote Control Handles and Control Hose/Cord

Pneumatic Remote Control Systems :

Inspect the Control Handle to be sure the Safety Flap/Lever Lock/Button is in good working condition. Check for damages, and replace or repair components as needed. Inspect the twin-line hoses and replace them if there are leaks, abrasions or soft spots.

Electric Remote Control Systems :

Inspect the Control Handle and make sure the Safety Flap/Lever Lock/Button is in good working condition. Check for damages, and replace or repair components as needed. Inspect the control cord and replace it if there are damaged plug ends or signs of abrasion, exposed wires or cracks

3. Inspect Blast Hose, Couplings & Gaskets

Check the Blast Hose for leaks, abrasions and soft spots. Inspect the couplings for damage, leaks and wear. Check the coupling gaskets for leaks and wear. Replace all components as needed. Be sure safety clips and whip checks (safety cables) are used to secure Blast Hose connections.

4. Inspect Blasting Nozzle

Check the Blasting Nozzle for wear, and measure the bore diameter. If the bore diameter is worn to the point of being 1/16 in. larger than its original diameter, replace the Blasting Nozzle. For instance, a #5 Nozzle (5/16 in. bore) needs to be replaced when the bore reaches 3/8 in.

5. Inspect Air Hose, Couplings & Gaskets

Check the Air Hose for leaks, abrasions and soft spots. Check the couplings for damage, leaks and wear. Check the coupling gaskets for leaks and wear. Replace all components as needed. Be sure safety clips and whip checks (safety cables) are used to secure Air Hose connections.

6. Inspect & Clean Blow-down Muffler

Remove the Blow-Down Muffler and turn it upside down. Tap it on a hard surface to free any debris that may be trapped inside. Replace the muffler if it is blocked and the obstruction cannot be cleared

7. Inspect Blow-down Hose Assembly

Remove and inspect the Blow-Down Hose Assembly. Replace it if you find leaks or soft spots.

8. Inspect Pop-Up & Pop-Up Gasket

Check the Pop-up and Pop-up Gasket for wear. Replace as needed

9. Service Metering Valve

Disassemble and clean the Metering Valves. Check for worn components and make sure it is working properly. Replace any worn components. Lubricate the two PMV-186 valves with an anti-seize compound before reassembly.

10. Service Air Valve AV-186

Disassemble and clean the valves. Check for worn components and make sure it is working properly. Replace any worn components. Lubricate with an anti-seize compound before reassembly.

12. Service Control Valve(s)

Disassemble and clean the valve(s). Check for worn components and make sure everything is working properly. Replace any worn components. Lubricate with an anti-seize compound before reassembly

Troubleshooting



DANGER : The Abrasive Blaster must NEVER be opened while it is pressurized. Extreme caution is required when troubleshooting involves pressurizing the Abrasive Blaster. Only experienced, qualified persons should perform troubleshooting procedures.

ABRASIVE NOT FLOWING DURING BLASTING (AIR ONLY)

Possible Causes :

1. The Abrasive Blaster is empty.

The abrasive cut-off function (if equipped) is engaged and is preventing the abrasive from flowing.

2. **The Metering Valve is closed or not properly adjusted.**

If you suspect that a PMV-186 Metering Valve is not opening, conduct the following test : Shut off the Metering Valve completely by turning the knob clockwise until it stops. Next, turn it counterclockwise about 9 full turns. Then, depress the Control Handle and check if the knob is difficult to turn or does not turn at all If so, the Metering Valve is opening properly.

3. **There is a blockage in the Metering Valve.**

To free the blockage from a PMV-186 Metering Valve, begin by turning the knob on the Metering Valve clockwise until it stops. Then, turn the knob counterclockwise 9 full turns so it is fully open. Depress the Control Handle and have a sISTblastnd qualified person close the choke valve for 2 sISTblastnds and then re-open it immediately. Minor obstructions, such as paint chips, a bit of wet abrasive or a piece of paper, will be forced through the Metering Valve and out the Nozzle. Turn the Metering Valve back to the required blast setting and check if the obstruction has been removed.

If there is still a blockage, depressurize the Abrasive Blaster, remove the Pusher Line and the Metering Valve and check if there is a steady stream of abrasive. If so, allow the Abrasive Blaster to empty, and then reinstall the Metering Valve.

If you find a large obstruction, you will have to remove it from inside the Pressure Vessel. To do so, start by making sure that the Abrasive Blaster is depressurized. Next, remove the Handway Assembly, scoop or vacuum all the abrasive out of the Pressure Vessel, and then remove the obstruction. You can then reinstall the Handway Assembly and the Metering Valve. Be sure to tighten them securely.

Once this is done, you can refill the Abrasive Blaster.

It is advisable to use a screen to keep foreign objects from getting inside the Abrasive Blaster and causing a blockage.

4. **There is wet abrasive in the Abrasive Blaster.**

The wet abrasive must be removed. To do so, depressurize the Abrasive Blaster, remove the Handway Assembly and scoop or vacuum out the wet abrasive.

The Abrasive Blaster must always be used with dry abrasive and supplied with clean, cool, dry air to keep the abrasive dry. For outdoor operations, using a lid is rISTblastmmended to prevent water from getting inside the Abrasive Blaster.

ABRASIVE STREAM TOO HEAVY OR THROBBING DURING BLASTING

Possible Causes :

Note: When RC-176 systems first start up, they may throb for a while if there is an accumulation of abrasive in the blast hose from a previous operation. This is normal, and no corrective action is needed.

1. **The Choke Valve is partially closed.**

The Abrasive Blaster should be operated ONLY with the Choke Valve fully open. Doing otherwise will cause

2. **The Metering Valve needs adjusting.**

Refer to the instructions on page 10 on how to adjust Metering Valves.

Troubleshooting (cont'd)



DANGER : The Abrasive Blaster must NEVER be opened while it is pressurized. Extreme caution is required when troubleshooting involves pressurizing the Abrasive Blaster. Only experienced, qualified persons should perform troubleshooting procedures.

LOW PRESSURE AT THE NOZZLE

Possible Causes :

1. The air compressor is too small or the load button is not activated.
2. The Nozzle is worn out, creating too much demand for the compressor.
3. The hose supplying air to the blaster is too small.
4. There is a hole in the blast hose.
5. The pop-up is not sealing properly.
6. There are one or more leaks in the Handway Assembly.
7. The Inlet Air Valve is dirty or blocked.
8. The lower plunger (if equipped) in the Inlet Air Valve is damaged, faulty or worn out.
9. The Choke Valve is partially closed. The Abrasive Blaster should be operated ONLY with the Choke Valve fully open. Doing otherwise will cause damage to the Abrasive Blaster.
10. The Abrasive Metering Valve is open too far.
11. The Nozzle is blocked.
12. The Regulator (if equipped) needs adjusting.

ABRASIVE BLASTER DOES NOT TURN ON OR IS SLOW TO DO SO

Possible Causes :

1. The air compressor is too small or the load button is not activated.
2. The Nozzle is worn out, creating too much demand for the compressor.
3. The hose supplying air to the blaster is too small.
4. There are one or more leaks in the control hoses and/or fittings.
5. The Nozzle is blocked.
6. The Inlet Air Valve is dirty or blocked.
7. The Pneumatic Control Handle (if equipped) is faulty, damaged or worn out.
8. The Electrical Control Handle (if equipped) is faulty, damaged or worn out.
9. The Electrical Control coil or coils (if equipped) are faulty.
10. The Power Source (battery or AC-DC converter) is not generating enough power to open the electrical control valves (if equipped).
11. The Control Valve (if equipped) needs servicing due to insufficient lubrication, or it is jammed, faulty, damaged or worn out.

Troubleshooting (end)



DANGER : The Abrasive Blaster must NEVER be opened while it is pressurized. Extreme caution is required when troubleshooting involves pressurizing the Abrasive Blaster. Only experienced, qualified persons should perform troubleshooting procedures.

BLAST MACHINE TURNS ON ACCIDENTALLY OR UNEXPECTEDLY

Possible Causes :

1. The safety flap, lever or lock button on the Control Handle is damaged or missing.
2. The Pneumatic Control Handle (if equipped) is faulty, damaged or worn out.
3. The Electrical Control Handle (if equipped) is faulty, damaged or worn out.
4. The Electrical Control Cord (if equipped) is faulty, damaged or worn out (if equipped).

BLAST MACHINE TURNS OFF TOO SLOWLY OR DOES NOT TURN OFF WHEN CONTROL HANDLE IS RELEASED

Possible Causes :

1. The Pneumatic Control Handle (if equipped) is faulty, damaged or worn out
2. The Electrical Control Handle (if equipped) is faulty, damaged or worn out.
3. The Electrical Control Cord (if equipped) is faulty, damaged or worn out.
4. The Air Valve (if equipped) needs servicing due to insufficient lubrication, or it is jammed, faulty, damaged or worn out.
5. The Combination Valve Assembly (if equipped) is not seating properly because it is faulty, damaged or worn out.
6. An obstruction in the Blow-Down Muffler is hindering the release of air..

AIR BLAST STOPS BUT ABRASIVE CONTINUES TO FLOW WHEN CONTROL HANDLE IS RELEASED (APPLIES ONLY TO SYSTEMS WITH PMV-186 SERIES METERING VALVES)

Possible Causes :

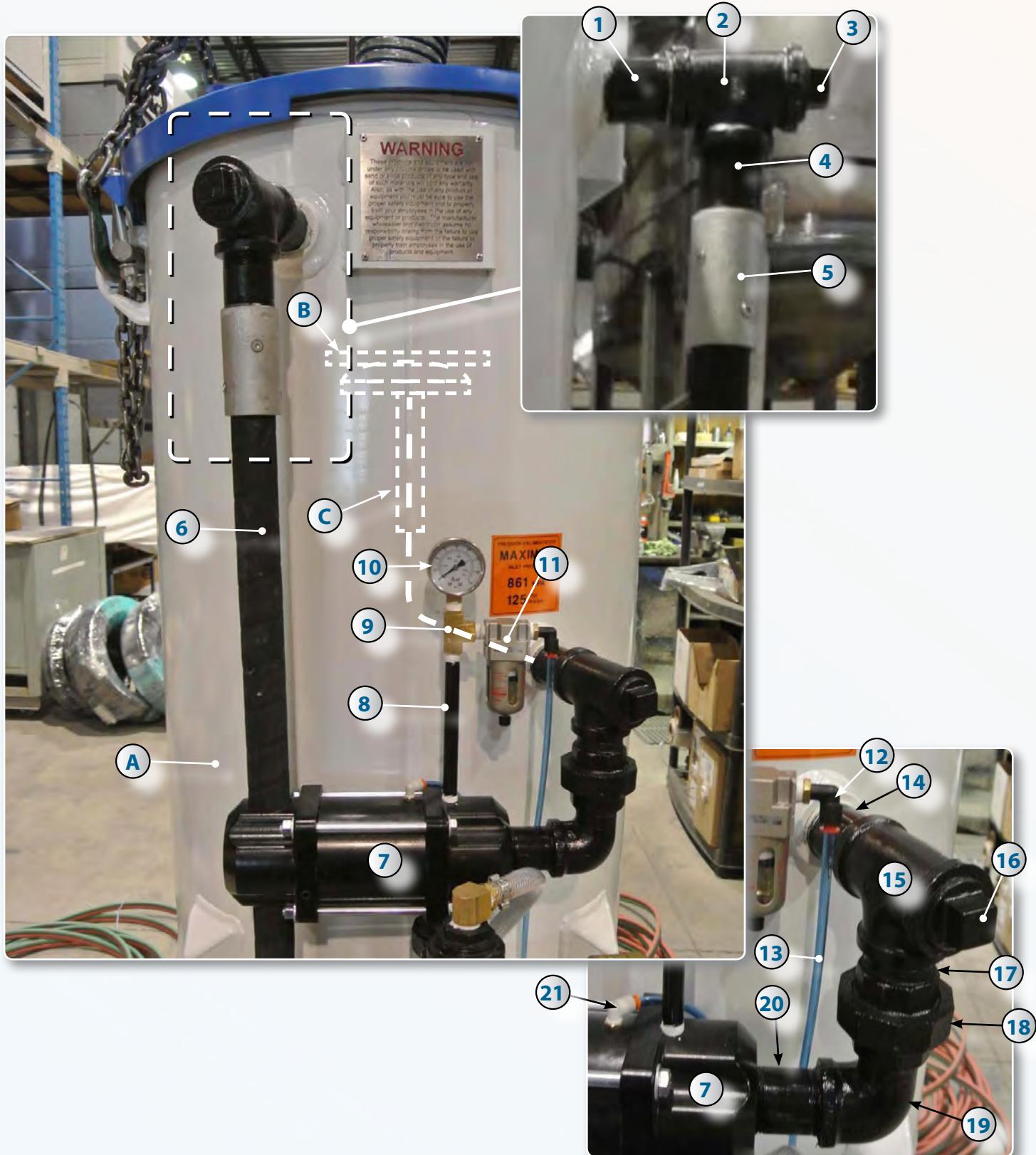
1. The Urethane Seat (black) in the Metering Valve is faulty, damaged or worn out.
2. The MN2 Sleeve in the Metering Valve is faulty, damaged or worn out.
3. The MN2 Plunger in the Metering Valve is faulty, damaged or worn out.
4. Foreign material is jammed between the Plunger and the Metering Valve Seat.
5. The Metering Valve Spring is faulty, damaged or worn out.

ABRASIVE STOPS FLOWING BUT AIR BLAST CONTINUES WHEN CONTROL HANDLE IS RELEASED

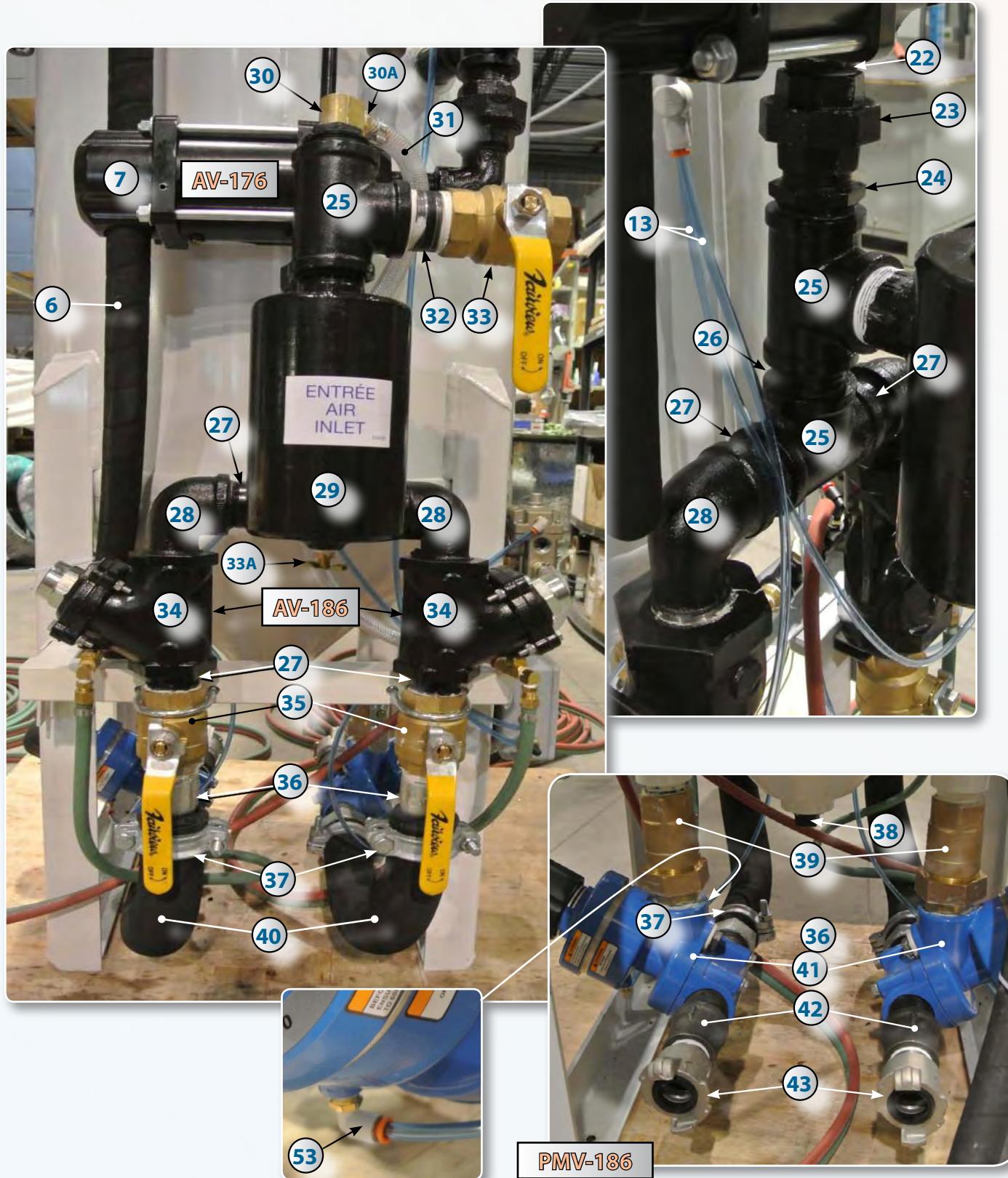
Possible Causes :

1. The lower plunger in the AV-176 or AV-186 Air Valve is faulty, damaged or worn out.
2. The piston seal in the AV-176 or AV-186 is faulty, damaged or worn out.
3. The O-ring in the AV-176 or AV-186 Valve is faulty, damaged or worn out.

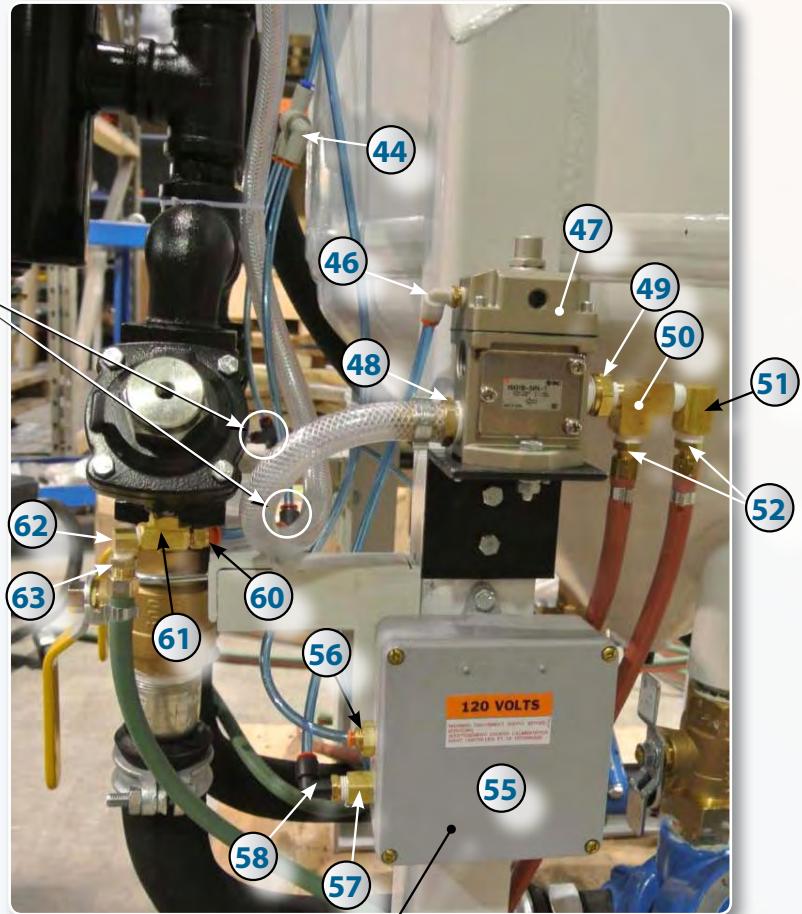
System assembly - Parts (front view)



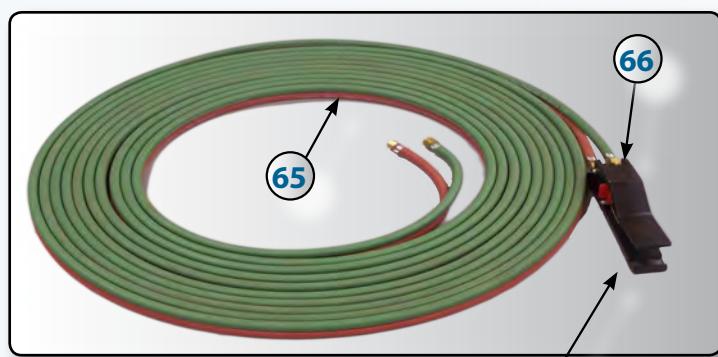
System assembly - Parts cont'd (front view)



System assembly - Parts cont'd (miscellaneous)



See inside parts page 22

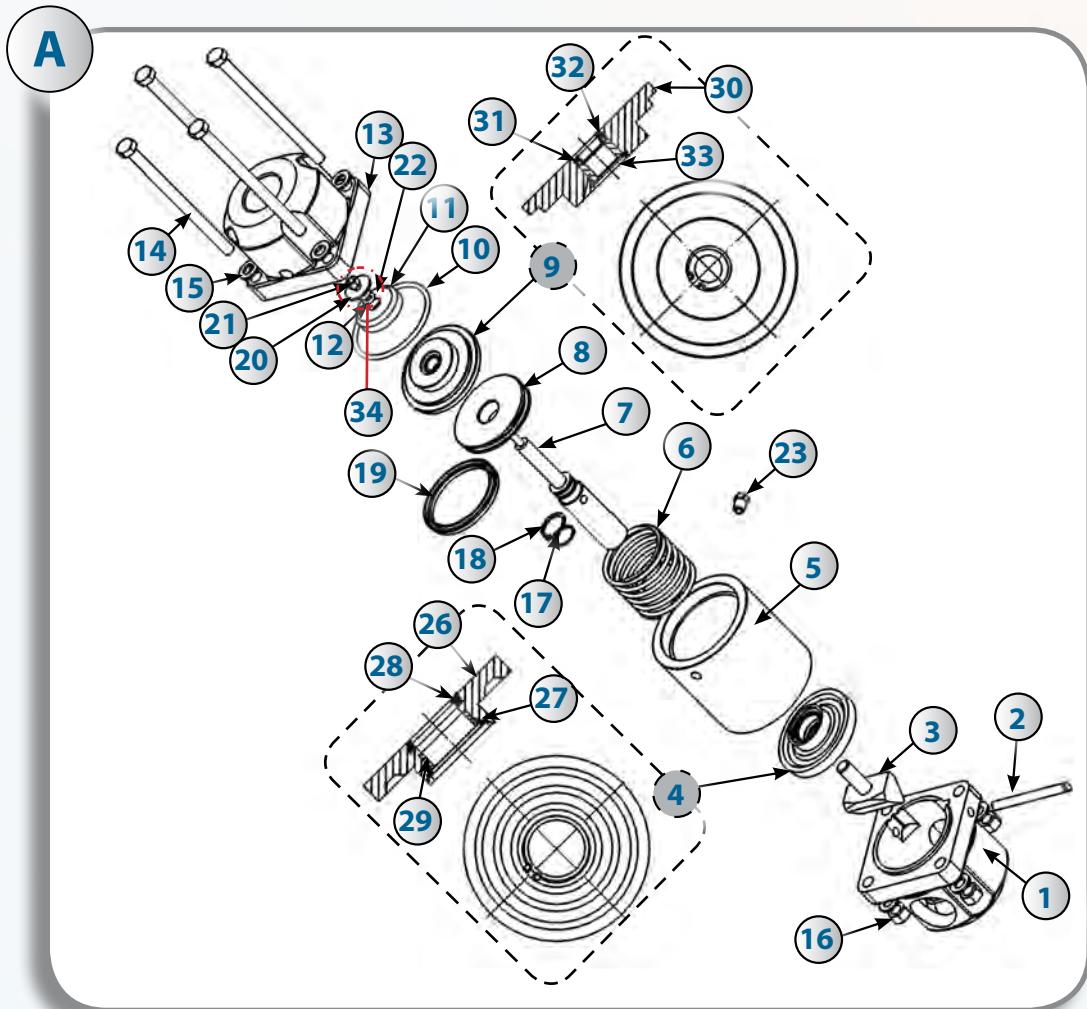


See details parts page 22

System assembly - Parts list

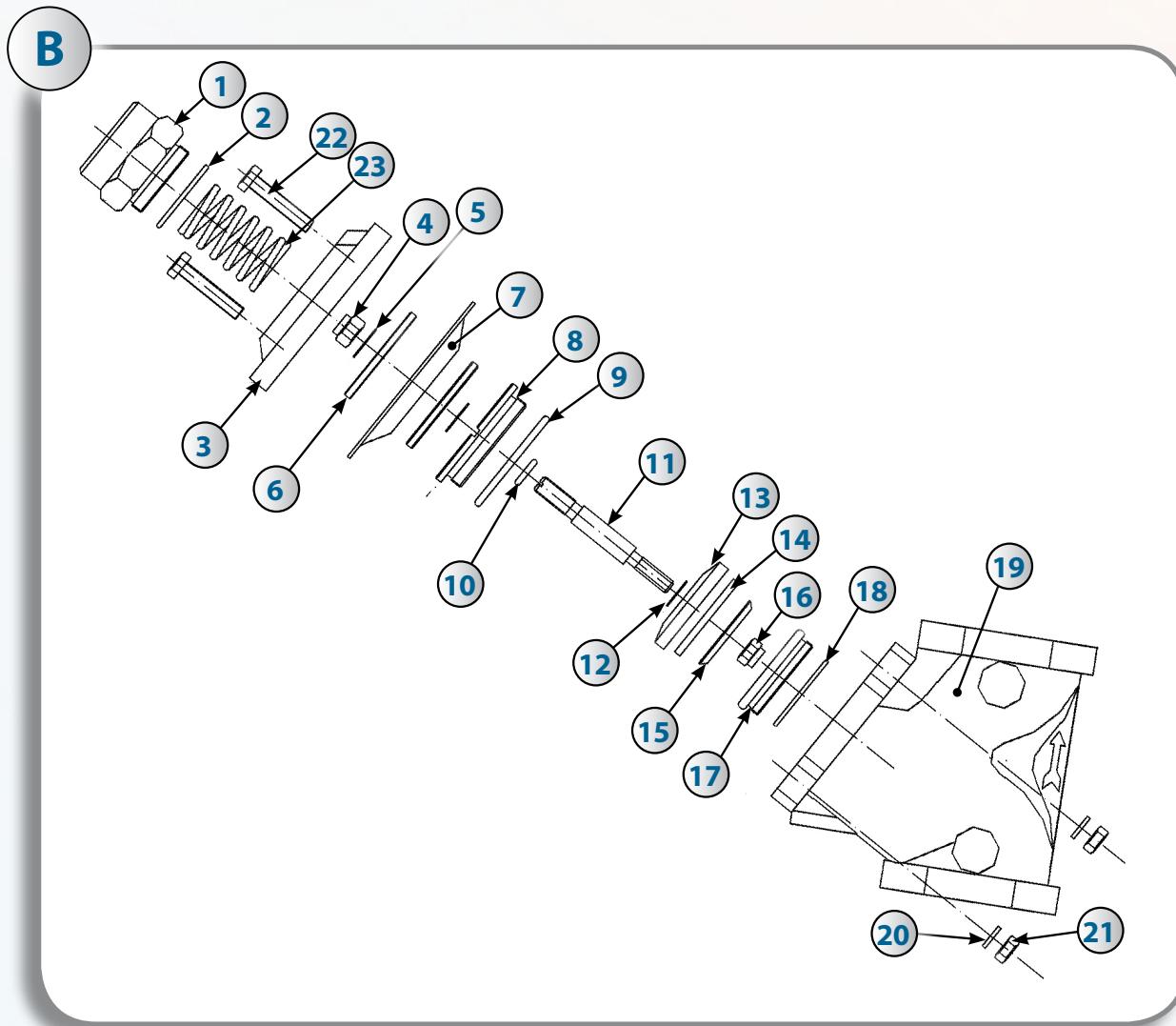
#	STOCK	DESCRIPTION	Qty	#	STOCK	DESCRIPTION	Qty
A	908820	PRESSURE VESSEL ONLY	1	34	908846	AIR VALVE AV-186-150 *	2
B	740104	"O" RING FOR 10 pi ³	1	35	608106	1½" BALL VALVE	2
C	610044	5" PLUNGER (LG SERIE)	1	36	607090	HOSE INSERT SWIVEL 1½"	4
1	630805	NIPPLE 3" x 1¼"	1	37	607091	DOUBLE BOLT CLAMP	4
2	630840	"T" COUPLING 1¼"	1	38	630884	BOTTOM VESSEL PLUG 1¼"	1
3	630844	PLUG 1¼"	1	39	908847	1¼" UNION BALL VALVE	2
4	630805	NIPPLE 3" x 1¼"	1	40	606007	1½" SBH HOSE	6'
5	607051	NH ¾" NOZZLE COUPLING	1	41	608845	PMV-186 VALVE ASSEMBLY *	2
6	606003	¾" SBH HOSE	6'	42	631060	PA REDUCER 1½" TO 1¼"	2
7	608821	AIR VALVE AV-176 *	1	43	607075	NCV/TC 1¼" COUPLING	2
8	630111	NIPPLE 6" X ¼"	1	44	908208	SHUTTLE VALVE	1
9	632234	"T" PL ¼"	1	46	324560	FITTING PUSH-IN 90° 1/4"	1
10	611022	¼" NTP GAUGE	1	47	608519	PILOT VALVE	1
11	611035	AIR LINE FILTER	1	48	632760	BP MENDER ½"	1
12	324560	FITTING PUSH-IN 90° ¼"	1	49	632745	½" x ¼" BRASS CONNECTOR	1
13	324571	BLUE TUBING AIR LINE	(PER FOOT)	50	632226	¼" BRASS T-STREET	1
14	630805	NIPPLE 3" x 1¼"	1	51	632232	¼" 90° BRASS	1
15	630840	"T" PL 1¼"	1	52	632214	BP HEX NIPPLE REDUIT ¼" x 1/8"	1
16	630884	1¼" PLUG	1	53	324560	PUSH-IN ¼" @ 90°	1
17	630801	1¼" NIPPLE CLOSE	1	54	606167	4" FLEXIBLE HOSE	1
18	630890	UNION PA 1¼"	1	54A	624117	4" CLIP FOR FLEXIBLE HOSE	1
19	630840	"T" PA 1¼"	1	55	-/-	ELECTRICAL BOX (SEE DETAIL P. 22)	1
20	630801	NIPPLE 1¼"	1	56	324503	PUSH-IN FITTING X ¼ M	1
21	324560	FITTING PUSH-IN 90° ¼"	1	57	324502	PUSH-IN FITTING	1
22	630801	1¼" NIPPLE CLOSE	1	58	324560	PUSH-IN ¼" @ 90°	1
23	630890	UNION PA 1¼"	1	59	324584	"T" PUSH-IN ¼"	1
24	631050	REDUCER HEX. PA 1½ X 1¼	1	60	324503	¼" PUSH-IN	1
25	631035	"T" PA 1½"	1	61	632226	¼" "T" BRASS	1
26	630840	"T" PA 1¼"	1	62	632233	¼" 90° ELBOW BRASS	1
27	631001	NIPPLE PA 1½"	1	63	632202	¼" BRASS HEX. NIPPLE	1
28	631045	90° ELBOW PA 1½"	2	64	740102	ACCESS DOOR KIT	1
29	611057	1½" MOISTURE SEPARATOR	1	64A	740101	ACCESS DOOR GASKET	1
30	632730	½" 90° BRASS ELBOW	1	65	606193	DUAL LINE REMOTE CONTROL HOSE 55' C/W FITTING	2
31	606104	½" WHITE NYLON HOSE	(PER FOOT)	66	908006	PNEUMATIC DEADMAN CONTROL HANDLE	2
32	631001	1½" NIPPLE CLOSE	1				
33	608106	1½" BALL VALVE	1				
33A	608230	DRAIN COCK VALVE	1				

* See details parts page 19 - ** See details parts page 20 - *** See details parts page 21

AV-176 Air valve assembly - Exploded view


A	608821	AV-176 COMPLETE VALVE ASS'Y
#	STOCK CODE	DESCRIPTION
1	770181	CAP
2	770191	PIN
3	770186	PINCH RAM
4	770184	UPPER ROD ASS'Y, INCLUDE : ITEMS 26, 27, 28, 29
5	770192	CYLINDER
6	770187	SPRING
7	770188	SHAFT
8	770189	PISTON
9	770185	LOWER ROD ASS'Y , NCLUDE : ITEMS 30, 31, 32, 33
13	770196	BASE
14	770197	HEX HEAD BOLT
15	770198	FLAT WASHER
16	770199	NUT
20	770213	FLAT WASHER
23	770216	EXHAUST FILTER

#	STOCK CODE	DESCRIPTION
10		VALVE PLUG
11		O-RING
12		BASE
17		O-RING
18		EXTERNAL CIRCLIP
19		PISTON SEAL (770190)
21		LOCK NUT
22		CURVED SPRING WASHER
28		UPPER ROD SEAL
29		CIRCLIP
32		LOWER ROD SEAL
26	770219	UPPER ROD GUIDE
27	770220	UPPER ROD GUIDE BUSH
30	770223	LOWER ROD GUIDE
31	770224	LOWER ROD GUIDE BUSH
32	770225	LOWER ROD SEAL
33	770226	CIRCLIP
(34)	PLUG KIT 770183	INCLUDE : ITEMS 11,12, 20, 21, 22

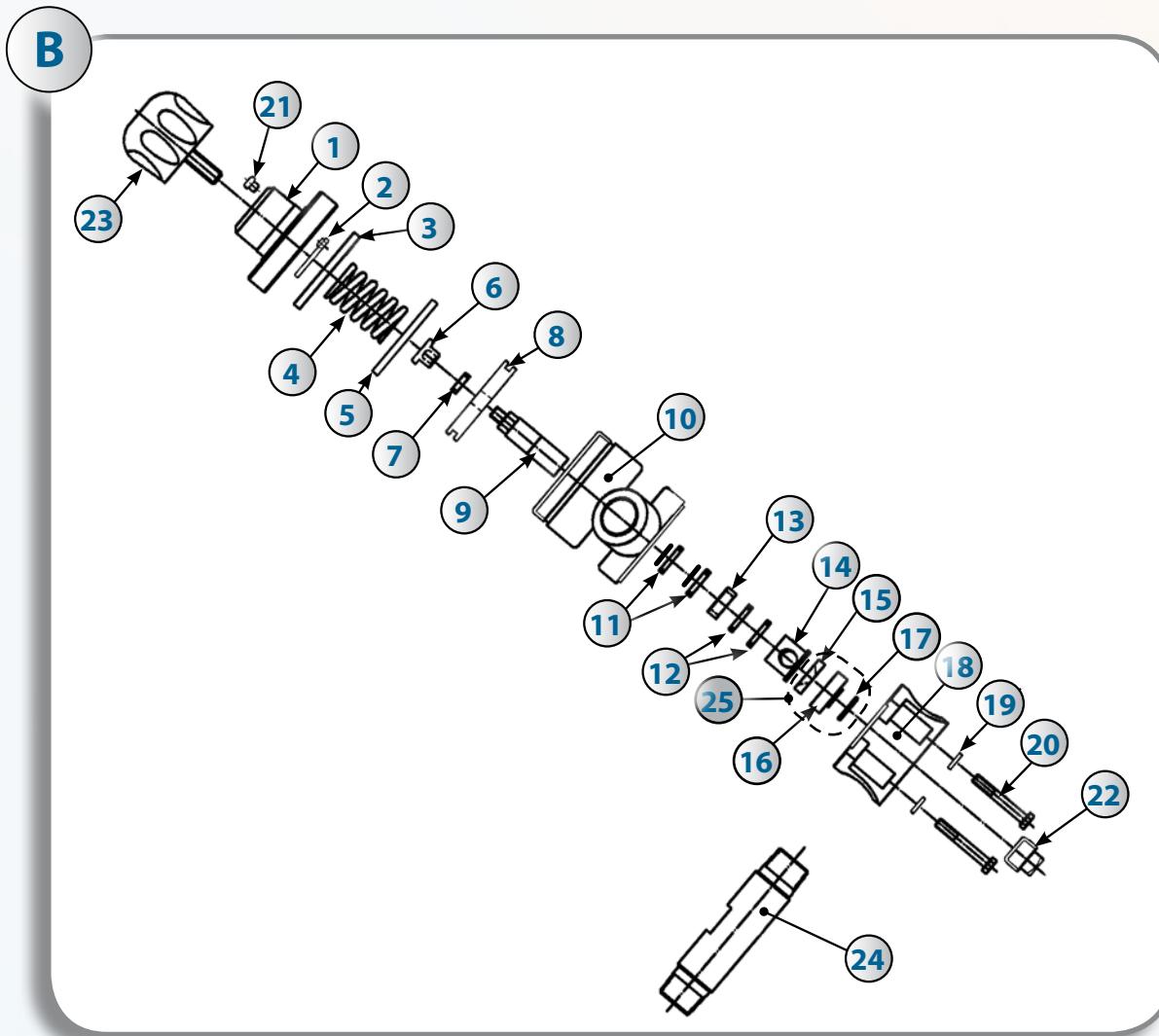
Air valve AV-186 - Exploded view


B	908846	AIR VALVE AV186-150 : COMPLETE VALVE ASS'Y
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#	STOCK CODE	DESCRIPTION	QTY
1		CAP	1
2	✿	O-RING 31.5mm x 2mm	1
3		COVER	1
4	✿	LOCK NUT 5/16" UNF	1
5	✿	FLAT WASHER 8mm	2
6		FLAT WASHER	2
7	✿	DIAPHRAGM	1
8		GUIDE BUSH	1
9	✿	O-RING 45mm x 3mm	1
10	✿	O-RING 9mm x 2.65mm	1
11		SHAFT	1
12	✿	FLAT WASHER	1
13		SEAT HOLDER	1
14	✿	RUBBER GASKET	1

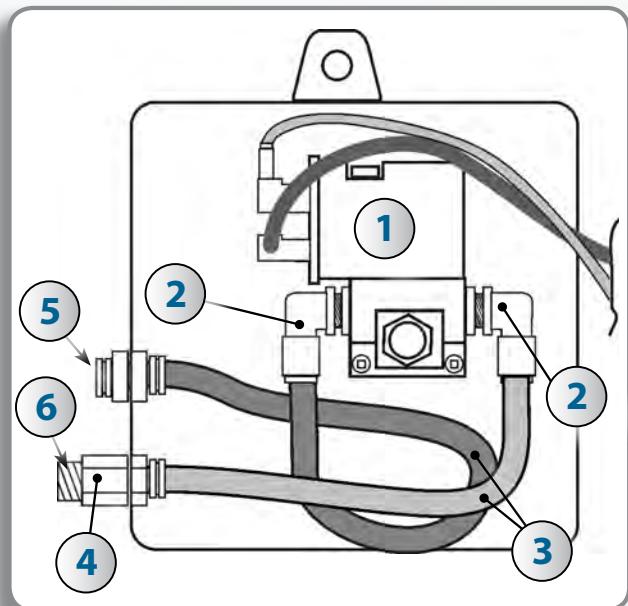
#	STOCK CODE	DESCRIPTION	QTY
15		RETAINER	1
16	✿	LOCK NUT 1/4" UNF	1
17		INNER BUSH	1
18	✿	O-RING 34mm x 1.8mm	1
19		BODY	1
20		SPRING WASHER 1/4"	4
21		NUT 1/4" UNC	4
22		HEX HEAD MACHINE SCREW 1/4" UNC X 35mm	4
23		SPRING	1

* Service kit available only :
608823 = # 2, 4, 5, 7, 9, 10, 12, 14, 16, 18.

Abrasive metering valve PMV-186 - Exploded view


A	608845	PMV-186 COMPLETE VALVE ASS'Y
#	STOCK CODE	DESCRIPTION
1	770022	TOP
2	770201	ANTI-VIBRATION WASHER
3	770023	STOP RING
4	770024	SPRING
5	770026	PISTON SEAL
6	770202	PLUNGER COVER
7	770203	NYLON WASHER
8	770213	PISTON
9	770204	TUNGSTENE PLUNGER
10	770121	CYLINDER
11	608830	PLUNGER SEAL C/WITH O-RING
12	770030	PLUNGER SEAL C/WITHOUT O-RING
13	770206	BUSH
14	608832	TUNGSTEN CARBIDE SLEEVE

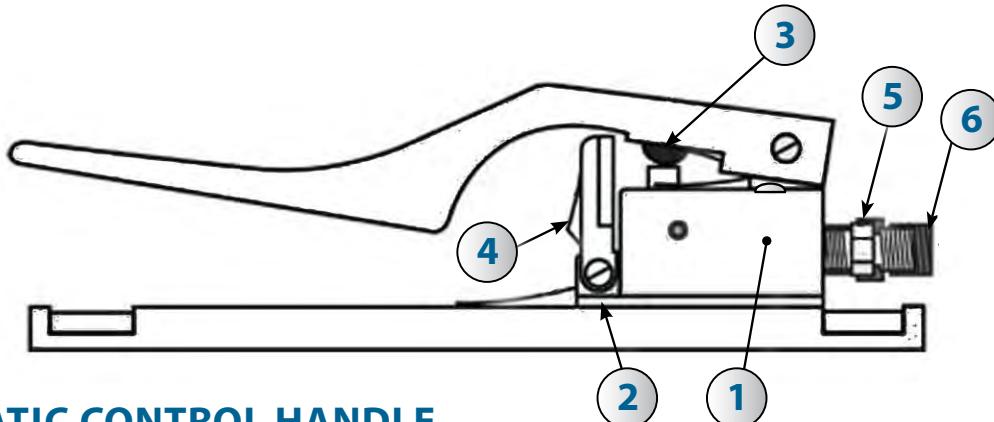
#	STOCK CODE	DESCRIPTION
15	608840	URETHANE SEAT
16	608841	SEAT HOLDER
17	608839	O-RING
18	770032	BASE
19	770207	FLAT WASHER
20	770033	HEX HEAD BOLT
21	770208	EXHAUST FILTER
22	770209	SQUARE HEAD PLUG
23	770021	CONTROL KNOB
24	770034	1 1/4" X 1 1/4" PIPE NIPPLE
25	770211	TUNGSTEN SEAT KIT INCLUDE : #15, 16, 17
26	KIT 770210	INCLUDE ITEMS # 5,11,12, 13, 14, AND 15, 16, 17

System assembly - Electrical box, exploded view


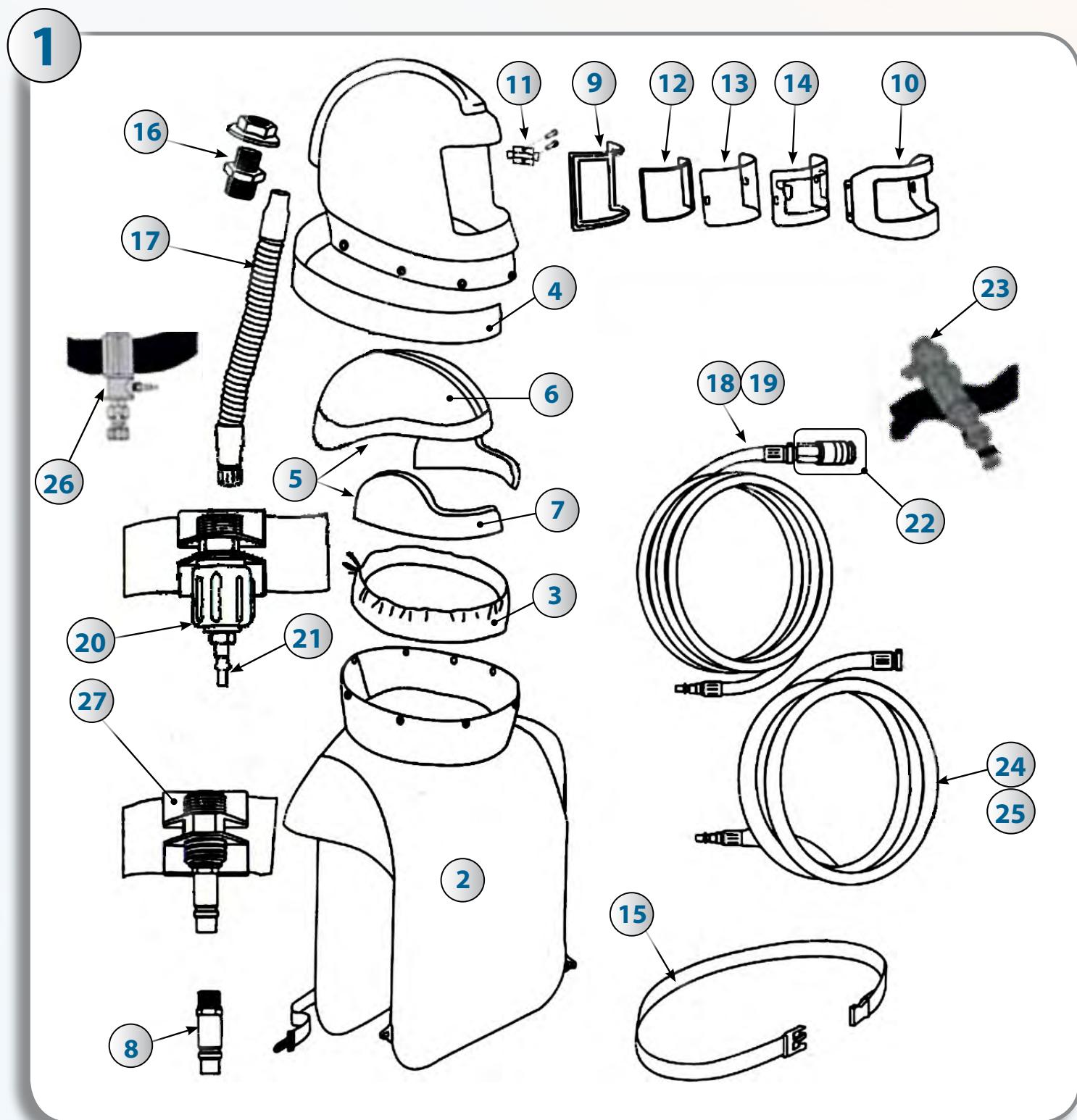
#	STOCK	DESCRIPTION
1	608568	SOLENOID VALVE
2	324561	90° PUSHING FITTING x 1/8
3	324571	NYLON TUBING (SOLD BY FOOT)
4	324502	PUSH-IN FITTING
5	324503	PUSH-IN FITTING x 1/4 M
6	632202	1/4 HEX NIPPLE

See box page 17

120 V

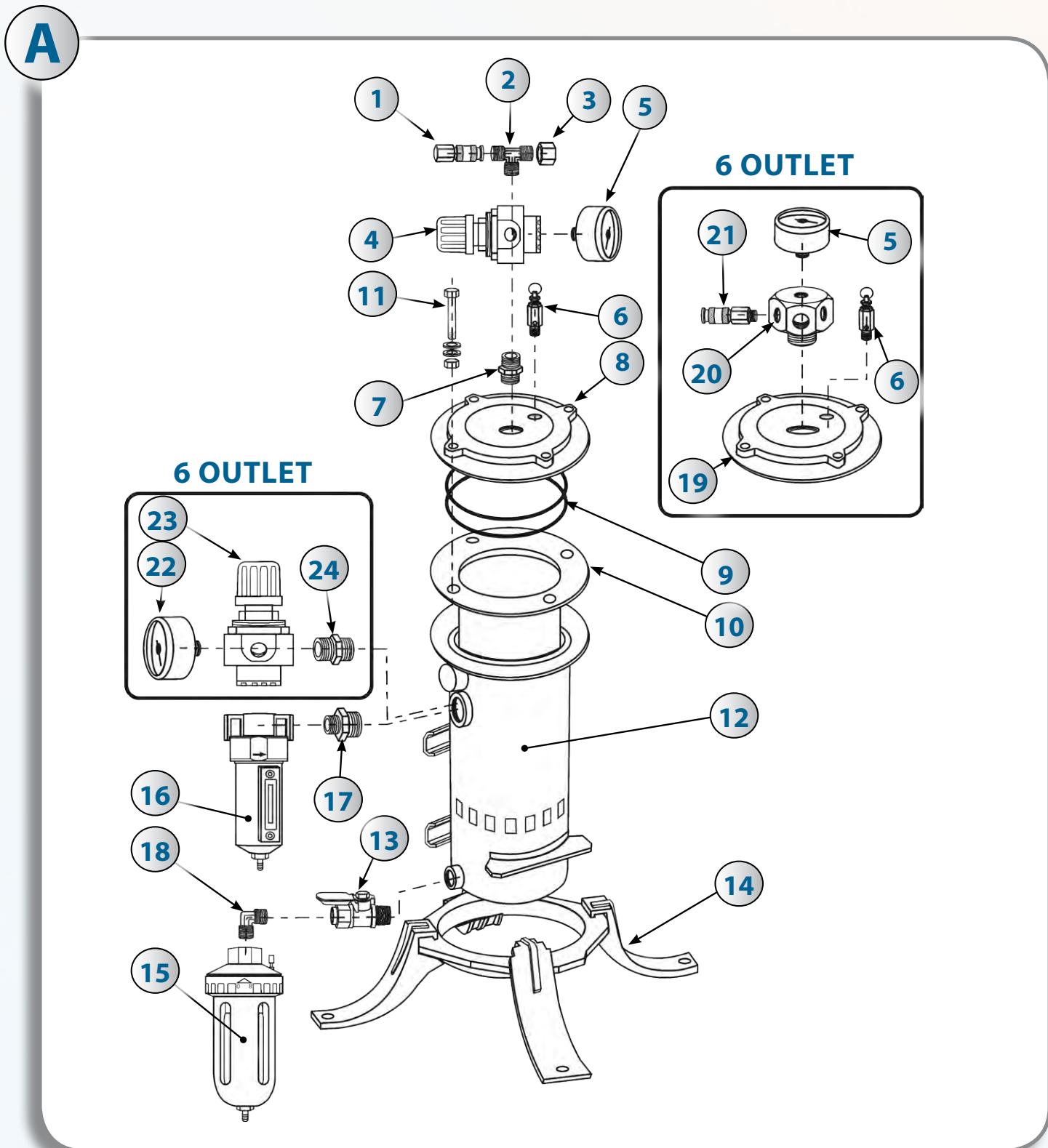
Control handle systems - Exploded view

PNEUMATIC CONTROL HANDLE

#	STOCK	DESCRIPTION	#	STOCK	DESCRIPTION
A	908006	PNEUMATIC DEADMAN CONTROL	4	770062	SAFETY FLAP
1			5	632002	HEX NIPPLE 1/8" NPT x 1/8" W/BALL ST
2	770061	HANDLE CONTROL PNEUMATIC REPAIR KIT	6	632224	HEX NIPPLE 1/8" NPT x 1/4" W/BALL ST
3					

NOVA 2000 assembly - Exploded view

NOVA 2000 assembly ▾ Parts list

#	STOCK	DESCRIPTION	#	STOCK	DESCRIPTION
1	603500	NOVA 2000 ASSEMBLY	15	603521	BELT W/BUCKLE
2	603520	CAPE, 28" NYLON	16	603522	AIR INLET ASSEMBLY
3	603502	INNER BIB	17	603515	BREATHING TUBE
4	603503	CAPE COVER BAND	18	603523	25' BREATHING AIR SUPPLY HOSE, 3/8"
5	603517	HEAD DOME & SIDEWINGS LARGE	19	603524	50' BREATHING AIR SUPPLY HOSE, 3/8"
6	603504	HEAD DOME (MEDIUM)	20	603516	FLOW CONTROL VALVE ASSEMBLY W/BELT
7	603505	SIDEWINGS (MEDIUM)	21	603519	1/4" QUICK RELEASE TAIL, MALE THREAD, 1/4" MNPT
8	603506	1/2" QUICK RELEASE TAIL 3/8" MNPT	22	603525	1/4" QUICK RELEASE COUPLER, FEMALE THREAD, 1/4" FNPT
9	603507	WINDOW FRAME GASKET	23	603510	COOL TUBE W/BSP THREAD & BELT
10	603508	VISOR	24	603526	50' BREATHING AIR SUPPLY HOSE, 1/2"
11	603509	LATCH & SCREWS	25	603527	100' BREATHING AIR SUPPLY HOSE, 1/2"
12	603514	INNERS, 10 PACK, (ANSI Z87.1-1989)	26	603511	HOT TUBE W/BSP THREAD & BELT
13	603512	OUTERS, 50 PACK, 0.20 THICK	27	603528	CONSTANT FLOW VALVE ASSEMBLY, 1/2"
14	603513	TEAR AWAYS, 50 PACK	28		

RADEX Breathing airline filter - Exploded view


RADEX Breathing airline filter - Parts list

#	STOCK	DESCRIPTION	#	STOCK	DESCRIPTION
A	603600	RADEX FILTER ASSEMBLY	13	603613	DRAIN TAP, BRASS, 1/4" NPT
1	603601	QUICK RELEASE COUPLER, FEMALE THREAD, 3/8"	14	603614	BASE MOUNT
2	603602	TEE, BRASS, 3/8"	15	603615	AUTO DRAIN UNIT, 1/4" NPT
3	603603	CAP, BRASS, 3/8"	16	603616	MICRO MIST FILTER 1/2" ASSEMBLY
4	603604	PRESSURE REGULATOR, LESS GAUGE	17	603617	REDUCING NIPPLE, BRASS, 1" X 1/2"
5	603605	PRESSURE GAUGE	18	603618	ELBOW, BRASS, 1/4"
6	603606	VALVE, PRESS RELIEF, 125 PSI, 1/4" NPT	19	603619	SIX OUTLET FILTER LID
7	603607	HEX NIPPLE, BRASS, 3/8"	20	603620	6 OUTLET MANIFOLD
8	603608	FILTER LID	21	603621	COUPLERS
9	603609	"O"- RING, SET OF 2	22	603622	PRESSURE GAUGE
10	603050	FILTER CARTRIDGE, FLANGED	23	603623	SUPER HIGH FLOW REGULATOR
11	603611	BOLT, NUT, WASHER, SET OF 4	24	603624	CONNECTOR, 1" NPT
12	603612	FILTER BODY			

ISTblast WARRANTY REGISTRATION

ISTblast would like to thank you for your recent purchase of our product line. Please complete the card below and either mail or fax it to our office so that we may start the warranty of your product and keep you up to date on the EPA regulations by fax. Again, thank you for your purchase and if you have any suggestions or comments, please feel free to contact our office.

COMPANY NAME: _____

ADDRESS: _____

CITY: _____ **STATE/PROV.:** _____

COUNTRY: _____ **ZIP CODE:** _____

CONTACT: _____

TEL. NUMBER: _____

FAX NUMBER: _____

PURCHASE FROM: _____

DATE OF PURCHASE: _____

Month Day Year

SERIAL NUMBER: _____ - _____ - _____ **MODEL NUMBER:** _____

TYPE OF MEDIA USED: _____

Which factors most influenced your decision to purchase this ISTblast unit?

SUGGESTIONS ABOUT THE EQUIPMENT: _____

IMPORTANT! Please complete and return within 30 days after purchase to activate the warranty.

PLEASE SEND THE COMPLETED FORM TO :

IST
4160 Industriel Blvd.
Laval, QC, H7L 6H1 CANADA

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OUR MISSION

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ISTblast is a leading industrial manufacturer of standard and custom engineered equipment for the surface treatment industry and the solvent recycling industry.

Mission

ISTblast is dedicated to being an innovative and trusted supplier in the conception, fabrication and distribution of surface treatment equipment and recycling equipment.

The success of our mission relies on the following core values :

Innovation

integrity

Quality

Markets served

The products, technologies and industry expertise of ISTblast are used in a wide range of manufacturing and industrial applications, including but not limited to :

- **General Manufacturing**
- **Industrial Equipment**
- **Metal forming**
- **Aerospace and Aviation**
- **Rail and Transit**
- **Marine**
- **Automotive**
- **Petroleum**
- **Flexography (labelling) & Lithography**
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